



# Doing What Works

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SAMPLE MATERIAL

## Student Work: Explanation of Math Answer

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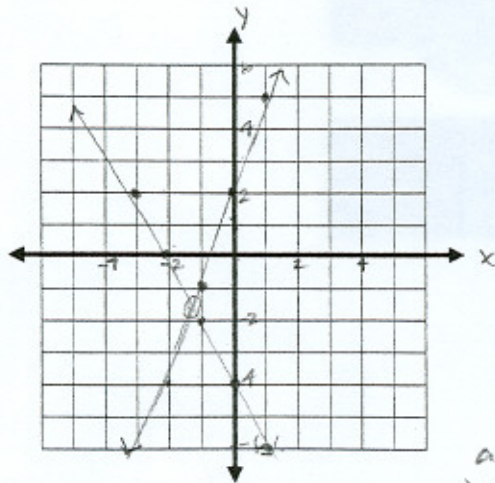
**Topic:** How to Organize Your Teaching

**Practice:** Higher-Order Questions

Asking for an explanation of “why” reveals a stronger understanding of material than mathematical calculation or problem solving alone. In this sample problem and response, a student is able to explain the limits of graphing and the need for alternative ways to solve for systems.

A math teacher may be able to use this sample material to identify how effective questions and responses may be used to deepen student understanding of class material.

- 3) Graph the system of equations  $y = -2x - 4$  and  $y = 3x + 2$  on the axes provided. Be sure your graph is complete and the axes are properly labeled and scaled. Highlight the solution to the system of the graph. EXPLAIN why, other than it being time-consuming, that solving this particular system by graphing is NOT a good idea.



Explanation here.

This system of equations would be much easier to solve with the equal values method because on a graph, it's not apparent what the exact intersection would be. It's hard to graph because the intersection point is a decimal, and you can't see what that decimal is on a graph.